

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Review of the Spectrum Sharing Plan Among)	
Non-Geostationary Satellite Orbit Mobile Sat-)	IB Docket No. 02-364
ellite Service Systems in the 1.6/2.4 GHz)	
Bands)	
)	
Amendment of Part 2 of the Commission's)	ET Docket No. 00-258
Rules to Allocate Spectrum Below 3 GHz for)	
Mobile and Fixed Services to Support the In-)	
troduction of New Advanced Wireless Ser-)	
vices, including Third Generation Wireless)	
Systems)	

SPRINT OPPOSITION TO PETITIONS FOR RECONSIDERATION

Sprint Corporation ("Sprint"), pursuant to Section 1.429(f) of the Federal Communications Commission's ("FCC" or "Commission") Rules, submits this opposition to the petitions for reconsideration of the *Fourth R&O*¹ filed by Globalstar LLC ("Globalstar")² and the Society of Broadcast Engineers, Incorporated ("SBE").³

I. INTRODUCTION

In the *Fourth R&O* the Commission added a "terrestrial fixed and mobile service except aeronautical mobile" allocation to the 2495-2500 MHz band, so that Broadband Radio Service

¹ *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands and Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Service to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, IB Docket No. 02-364 and ET Docket No. 00-258, Report and Order, Fourth Report and Order and Further Notice of Proposed Rulemaking, FCC 04-134, (rel. July 16, 2004) ("*Fourth R&O*").

² Petition for Reconsideration of Globalstar, IB Docket No. 02-364 (filed Sept. 8, 2004) ("Globalstar Petition").

³ Petition for Reconsideration of Society of Broadcast Engineers, IB Docket No. 02-364 (filed Sept. 8, 2004) ("SBE Petition").

(“BRS”) Channel 1 licensees⁴ previously allocated to the 2150-2156 MHz band can be relocated to the 2496-2502 MHz band.⁵ This allocation effectively renders BRS Channel 1 stations co-primary with respect to co-channel MSS operations, ISM operations, Broadcast Auxiliary Service (“BAS”) operations and certain non-BAS, private radio operations, and subjects BRS Channel 1 stations to substantial interference from these operations, which BRS Channel 1 stations apparently may be unable to remedy because they will be second-in-time to these co-primary operations. BRS Channel 1 licensees were not subject to these types of co-channel interference sources in the spectrum from which they were involuntarily relocated.

In response to this *de facto* demotion in band status – which leaves BRS Channel 1 licensees far worse off than they were prior to their involuntary relocation – Sprint, the Wireless Communications Association International, Inc. (“WCA”), and Nextel Communications, Inc. (“Nextel”) filed petitions for reconsideration of this decision.⁶ Among other things, Sprint, WCA and Nextel all underscored the impossibility of non-interfering coexistence between BRS Channel 1 operations and either MSS or BAS operations. Sprint and WCA proposed that the

⁴ Although the Commission’s recent decision to change the name of the Multipoint Distribution Service to the BRS in the *2.5 GHz Band Restructuring Order*, is not yet effective, Sprint uses the BRS moniker throughout this document. See *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, WT Docket No. 03-66, Report and Order and Further Notice of Proposed Rulemaking, FCC 04-135 (rel. July 29, 2004) (“*2.5 GHz Band Restructuring Order*”).

⁵ This decision to make the 2496-2500 MHz band available for BRS Channel 1 operations is being made in conjunction with the Commission’s overhaul of the BRS band plan and service rules in WT Docket No. 03-66. See *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 14165 at ¶ 38 (2004) (“*BRS/EBS Order*”).

⁶ See Petition for Partial Reconsideration of Sprint Corporation, IB Docket No. 02-364 (“Sprint Petition”), Petition for Partial Reconsideration of Wireless Communications Ass’n Int’l, IB Docket No. 02-364 (“WCA Petition”), and Petition for Reconsideration of Nextel Communications, Inc. (“Nextel Petition”) (all filed Sept. 8, 2004).

MSS allocation be eliminated from the 2496-2500 MHz band and that incumbent BAS stations be relocated to other spectrum. Sprint, WCA and Nextel further proposed that the costs for relocating BAS stations should be equitably divided between Globalstar and the appropriate 1.7/2.1 GHz Advanced Wireless Services (“AWS”) auction winners.

With respect to Globalstar and SBE’s Petitions, Sprint agrees that harmful co-channel interference inevitably will result from mixing BRS Channel 1 operations alongside MSS and BAS operations in the 2496-2500 MHz band. However, Sprint opposes Globalstar’s contention that technical restrictions should be imposed upon BRS Channel 1 licensees to protect the MSS operations. There is no lawful basis for adherence to Globalstar’s request, which would leave BRS licensees significantly worse off after relocation than before. Further, while Sprint endorses the notion of relocating grandfathered BAS and non-BAS, private radio operations out of the 2496-2500 MHz band, it opposes SBE’s contention that BAS Channel 1 licensees should pay some portion of the associated costs, and opposes SBE’s proposal to allow incumbent BAS stations to “opt out” of relocation. As Sprint explained in its Petition, these costs should be equitably divided between the ultimate beneficiaries of that action – specifically, Globalstar and the appropriate 1.7/2.1 GHz AWS auction winners.

II. The Commission Should Reject Globalstar’s Proposal To Impose Technical Restrictions On BRS Channel 1 Operations

Sprint agrees with Globalstar generally that harmful interference – both from MSS downlink operations to BRS Channel 1 operations and *vice-versa* – is likely to result from the Commission’s decision to place BRS Channel 1 and MSS operations in the same spectrum.⁷ As

⁷ Globalstar indicates that BRS Channel 1 operations will “wipe out MSS downlink operations . . . for a radius of 30 kilometers.” Globalstar Petition at 12.

Sprint pointed out in its Petition, the Commission itself has acknowledged the technical infeasibility of non-interfering spectrum sharing between terrestrial mobile services and MSS services on a number of recent occasions.⁸ As Sprint and WCA also explained, the Power Flux Density values set forth in Annex 2.1.2.3.1 of Resolution 46 of the ITU Radio Regulations, which the Commission relies upon to protect BRS stations from MSS interference, are inadequate to protect the portable and mobile cellularized service offerings that are contemplated for BRS Channel 1.⁹ The Commission's supposition that BRS Channel 1 stations will operate in urban areas and that MSS will operate in rural areas, thus reducing the chances that interference will occur, seems similarly misplaced, given that MSS satellites utilize wide-area, spot-beam downlink transmissions that are likely to encompass BRS stations.¹⁰ Further, the notion that BRS deployments will be limited to urban areas seems inconsistent with the Commission's goals of encouraging widespread service deployment throughout all areas of the country.

There is no basis, however, for resolving this interference problem by imposing the technical restrictions proposed by Globalstar – or any other technical restrictions – upon BRS Channel 1 licensees to protect MSS operations.¹¹ As a starting point, the fixed/mobile allocation adopted in the *Fourth R&O* under which BRS Channel 1 licensees will operate within the 2495-2500 MHz band expressly provides that “[MSS] (space-to-Earth) shall not receive protection from non-Federal Government stations in the fixed and mobile aeronautical mobile services op-

⁸ See, e.g., Sprint Petition at 3-4. See also, WCA Petition at 10; Nextel Petition at 5-7.

⁹ See Sprint Petition at 3-6; WCA Petition at 7-11, and Attachment A. See also Nextel Petition at 4.

¹⁰ See *Fourth R&O* at ¶ 72.

¹¹ To protect MSS operations from BRS Channel 1 operations, Globalstar requests that the Commission: (1) limit BRS 1 operations to the top 35 Metropolitan Statistical Areas (“MSAs”); (2) limit BRS 1 base stations to 600 W; and (3) limit the out-of-band emissions of BRS Channel 1 users, for 99 percent of the

erating in the [2495-2500 MHz] band.”¹² Accordingly, irrespective of whether MSS was in the band prior to the arrival of BRS Channel 1 operations, imposition of technical restrictions upon BRS Channel 1 stations to “protect” MSS operations in the 2496-2500 MHz band is entirely incompatible with the fixed/mobile allocation – and thus BRS Channel 1’s band status – adopted under the *Fourth R&O*.

Further, subjecting BRS Channel 1 operations to new technical restrictions that did not previously apply to BRS Channel 1 licensees and do not apply within the rest of the BRS/Educational Broadband Service (“EBS”) band (at 2500-2690 MHz) would effectively orphan these operations with respect to their contiguous cousins in the 2502-2690 MHz band, thus contradicting the very spectral efficiencies which prompted the Commission to relocate BRS Channel 1 to the 2496-2502 MHz band in the first place.¹³ Globalstar’s proposed restrictions would not only isolate BRS Channel 1 operations from BRS/EBS operations at 2502-2690 MHz by imposing inconsistent operational parameters, but also would isolate them geographically by restricting them to the top 35 MSAs.¹⁴ Such action would be inequitable on its face and inconsistent with the Commission’s relocation policies, which seek to ensure that relocated licensees

time, to an aggregate not to exceed –209 dBW/Hz at any point outside of the top 35 MSA boundaries in the 2483.5-2500 MHz range. *See* Globalstar Petition at 12.

¹² U.S. Table of Frequency Allocations, United States (U.S.) Footnotes, US391, 47 C.F.R. § 2.2106.

¹³ *See BRS/EBS Order* at ¶ 27 (in which the Commission concluded that relocating BRS Channel 1 and 2 licenses to be contiguous with the existing 2500-2690 MHz band “optimal,” because it “integrate[s] these licenses into the new BRS instead of orphaning MDS operations such that they would be part of a different service.”).

¹⁴ Moreover, the emission mask Globalstar proposes for BRS Channel 1 operations within these MSAs is unachievable and would effectively render such stations useless to provide their current and/or expected service offerings.

are no worse off than they were prior to relocation.¹⁵ Moreover, such action would substantially interfere with BRS Channel 1 licensees' rights and investment expectations.¹⁶ Given that the *status quo* of BRS-MSS "sharing" is equally untenable, the Commission should instead eliminate the allocation for Big LEO MSS in the 2496-2500 MHz band, as Sprint outlined in its Petition. Such action would be consistent with the Commission's approach in prior situations where a new entrant cannot share spectrum with the incumbent service providers.¹⁷

Eliminating the co-primary MSS allocation from the 2496-2500 MHz band would solve the MSS-BRS interference potential and would not prejudice any MSS party. Globalstar, the only CDMA Big LEO MSS licensee, would retain exclusive and/or shared use of 11.35 MHz of

¹⁵ See, e.g., *Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation*, First Report and Order and Further Notice of Proposed Rule Making, 11 FCC Rcd 8825, 8842 at ¶ 32 (1996) ("In sum, our goal is to ensure that incumbents are no worse off than they would be if relocation were not required . . ."). Under the Commission's "emerging technology" involuntary relocation rules, for example, relocated incumbents are entitled to a new system that is "comparable" to the old one – meaning that it must be "at least equivalent to the existing system" with respect to three variables: throughput, reliability, and operating costs. See 47 C.F.R. 101.75. The spirit of this policy is applicable in the context of spectrum relocations.

¹⁶ Through its subsidiaries, Sprint paid substantial monies at auction and in the secondary market to acquire its BRS Channel 1 licenses. Sprint currently offers broadband service in more than a half-dozen geographic areas outside of the top 35 MSAs under its BRS Channel 1 licenses – including such markets as Fresno, CA; Oklahoma City, OK; Salt Lake City, UT; Tucson, AZ; and Wichita, KS – all of which would be forced to shut down under Globalstar's proposal. Sprint also currently offers broadband service in more than a half-dozen of the top 35 MSAs under BRS Channel 1 licenses (including Chicago, IL; Detroit, MI; Houston, TX; Phoenix, AZ; and San Francisco, CA). To eliminate and/or relegate the geographic scope and operational utility of these licenses now would both upset Sprint's investment expectations and severely undermine confidence in the Commission's spectrum auction process.

¹⁷ See, e.g., *Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, Report and Order, 15 FCC Rcd 13430, 13467 at ¶ 76 (2000) ("It is a central aspect of our decisions in this proceeding that stations of the new primary service must be able to establish their operations without significant interference from existing stations of any other service."); *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, Second Report and Order and Second Memorandum Opinion and Order, 15 FCC Rcd 12315, 12361 at ¶ 133 (2000) ("... our relocation policies are designed solely to prevent interference between stations. Our relocation rules support our policy of providing for spectrum sharing between incumbents and new technology licensees, and relocation of incumbents where necessary." (citations omitted)).

spectrum, which is actually 3.10 MHz *more* than what the Commission indicated it would allot in the event that only a single CDMA MSS system was implemented in the 2.4 GHz band.¹⁸ Globalstar's contention that because it "still has access to 11.35 MHz of spectrum in L-band, [it] requires access up to 16.5 MHz (11.35 MHz times [1.4]) of spectrum in S-band" is specious.¹⁹ Under the L-Band sharing mechanisms adopted in the *Fourth R&O*, Globalstar only has *exclusive* access to 8.25 MHz of L-Band spectrum at 1610-1618.25 MHz – which is all the Commission ever indicated it would get – whereas Globalstar *shares* 3.1 MHz of L-Band spectrum at 1618.25-1621.35 MHz with Iridium's TDMA MSS system.²⁰ The exclusive access to 11.35 MHz of S-Band spectrum at 2483.5-2495 MHz granted to Globalstar achieves the 1:1.4 equivalent capacity ratio with respect to Globalstar's exclusive access to 8.25 MHz of L-Band spectrum. To grant Globalstar exclusive access to more spectrum in the S-Band (*i.e.*, to spectrum above 2495 MHz) would actually exceed the 1:1.4 ratio which Globalstar itself indicated was sufficient by attempting to equate "shared use" spectrum capacity with "exclusive use" spectrum capacity.²¹

¹⁸ See *Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands*, Notice of Proposed Rulemaking, 9 FCC Rcd 1094, 1112. (1994).

¹⁹ Globalstar Petition at n.10.

²⁰ See *Fourth R&O* at ¶ 44.

²¹ Specifically, if the 1:1.4 ratio for equivalent spectrum capacity between the L- and S-Bands is to make any sense, access to the spectrum within these bands must be exclusive – otherwise, capacity of one or the other bands in comparison could vary (and throw the ratio off) simply due to shared usage with another in-band licensee. As Globalstar itself admits in its Petition with respect to the joint usage of the 1618.25-1621.35 MHz band by its CDMA system and Iridium's TDMA system, however, "access by one system to the 'jointly used' spectrum requires the other to cede access." Globalstar Petition at 6. Accordingly, in instances where Globalstar lacks access to a full 11.35 MHz of spectrum, because of ceded capacity in the 1618.25-1621.35 MHz band to Iridium's TDMA system, granting it exclusive access to S-Band spectrum above 2495 MHz would result in L-Band capacity to S-Band capacity ratios in excess of the 1:1.4 balance that Globalstar indicates is required.

III. The Commission Should Reject SBE's Proposal To Require BRS Channel 1 Licensees To Pay A Portion Of BAS Relocation Costs

Sprint endorses SBE's proposal to relocate incumbent BAS and private radio operations out of the 2496-2500 MHz band to prevent the mutually-destructive interference that most parties to this proceeding agree will occur if these stations and BRS Channel 1 stations were to operate on a co-channel basis.²² As the Commission itself concluded in the *BRS/EBS Order*, "because we are establishing a low-power BRS, we believe it would be appropriate to consider moving BAS at this time."²³

However, Sprint opposes SBE's contention that BRS Channel 1 licensees should be expected to pay any portion of the relocation costs associated with moving these BAS and private radio stations out of the 2496-2500 MHz band. As SBE suggests, the beneficiaries of the relocation should pay the relocation costs.²⁴ Indeed, the Commission has made clear on several occasions that its relocation policy generally requires the party who benefits from the relocation to take responsibility for relocating incumbents.²⁵ BRS Channel 1 licensees, however, are not the ultimate beneficiaries of relocating BAS operations from the 2496-2500 MHz band. Rather, BRS Channel 1 licensees are themselves being involuntarily relocated from the 2150-2160/62 MHz band to the 2496-2502 MHz band to benefit new AWS entrants. As the primary new en-

²² See SBE Petition at 4-5; Sprint Petition at 7-8; WCA Petition at 15-23; Nextel Petition at 11-13.

²³ *BRS/EBS Order* at ¶ 28.

²⁴ See SBE Petition at 7.

²⁵ See, e.g., *Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, Second Report and Order and Second Memorandum Opinion and Order, 15 FCC Rcd 12315, 12346 at ¶ 97 (2000); *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless System*, Sixth Report and Order, Third Memorandum Opinion and Order, and Fifth Memorandum Opinion and Order, ET Docket 00-258 *et al.*, FCC 04-219, at ¶ 55 (rel. Sept. 22, 2004).

entrant responsible for BRS Channel 1's involuntarily relocation into the 2496-2500 MHz band, AWS auction winners should shoulder the burden of clearing incumbent BAS and non-BAS, private radio stations to make BRS Channel 1 operations possible.²⁶ As SBE points out, the other beneficiary is the CDMA MSS provider in the 2483.5-2496 MHz band²⁷ and, thus, these costs should be equitably divided between Globalstar and the 1.7/2.1 GHz AWS auction winners.

Finally, Sprint opposes SBE's proposal to allow "remote" BAS stations operating in the 2496-2500 MHz band to "opt out" of being relocated from the band.²⁸ SBE's apparent rationale is that "opt out" is appropriate because these stations may not receive interference *from* BRS Channel 1 operations. That rationale, however, is irrelevant to the interference that these BAS stations may cause *to* BRS Channel 1 operations, and apparently could allow such BAS operators to continue such interfering transmissions indefinitely.²⁹

IV. Conclusion

For the reasons set forth above, Sprint respectfully requests that the Commission reject the proposal in Globalstar's Petition for Reconsideration to: (i) limit BRS 1 operations to the top 35 Metropolitan Statistical Areas; (ii) limit BRS 1 base stations to 600 W; and (iii) limit the out-

²⁶ See, e.g., *Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, Report and Order, 15 FCC Rcd 13430, 13467 at ¶ 78 (2000) ("The Commission's policy has been to place the cost of an involuntary relocation to comparable facilities on the shoulders of the new entrant." (citing *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, Third Report and Order and Memorandum Opinion and Order, 8 FCC Rcd 6589, 6589-95 (1993))). See also 47 C.F.R. § 101.75.

²⁷ See SBE Petition at 7-8.

²⁸ *Id.*

²⁹ An "opt-out" mechanism that requires mutual acceptance by the "remote" BAS station and affected BRS Channel 1 licensee(s) (and terminable by either) may be acceptable, however, the costs for any ultimate relocation must be equitably divided between Globalstar and the 1.7/2.1 GHz AWS auction winners.

of-band emissions of BRS Channel 1 users, for 99 percent of the time, to an aggregate not to exceed -209 dBW/Hz at any point outside of the top 35 MSA boundaries in the 2483.5-2500 MHz frequency range. Sprint further requests that the Commission reject the proposals in SBE's Petition for Reconsideration to: (i) make BRS Channel 1 licensees pay some portion of the costs for relocating incumbent BAS and non-BAS, private radio stations from the 2496-2500 MHz band; and (ii) allow these stations to "opt out" of such relocation.

Respectfully submitted,

SPRINT CORPORATION

/s/ David Munson
Luisa L. Lancetti
Vice President, Wireless Regulatory Affairs

David Munson
Attorney

Sprint Corporation
401 9th Street, N.W., Suite 400
Washington, D.C. 20004
202-585-1926

October 27, 2004

CERTIFICATE OF SERVICE

I hereby certify that, on this 27th day of October, 2004, copies of this ***OPPOSITION TO PETITIONS FOR RECONSIDERATION*** in IB Docket No. 02-364 and ET Docket No. 00-258 were sent by e-mail or First Class Mail, postage prepaid, to the parties listed below.

/s/David Munson
David Munson

Richard S. Roberts William F Adler Globalstar LLC 461 S. Milpitas Blvd. Milpitas, CA 95035	Paul J. Sinderbrand Wilkinson Barker Knauer, LLP 2300 N Street, N.W. Suite 701 Washington, D.C. 20037-1128 Counsel for The Wireless Communications Association International, Inc.
William D. Wallace Crowell & Moring LLP 1001 Pennsylvania Ave., N.W. Washington, D.C. 20004 Attorney for Globalstar LLC	Lawrence R. Krevor Vice President, Government Affairs George Hanbury Senior Counsel, Government Affairs Nextel Communications 2001 Edmund Halley Drive Reston, VA 20191
Christopher D. Imlay, Esq. Booth, Freret, Imlay & Tepper 14356 Cape May Road Silver Spring, MD 20904 General Counsel to SBE	